What is claimed is:

1. A method for transmitting data packets (DAT) by way of a synchronous digital data transmission network (SDH) in which the data packets (DAT) are packed into synchronous transport modules (STM-N), characterized in that
- the subunits (VC) of synchronous transport modules (STM-N) of the same size are used in order to establish logical virtual connections between network elements (NE1 - NEn, MUX1, MUX2, CC1, CC2) of the synchronous digital data transmission network (SDH),
- that the virtual connections (LV1 - LV4) are entered into an address table (TAB),
- that in at least one part of the network elements (NE1 - NEn, MUX1, MUX2, CC1, CC2) of the synchronous digital data transmission network, an evaluation of the target address (ZAD) of the data packets (DAT) takes place and
- that at least for a part of the data packets (DAT) from at least one of the network elements of the synchronous digital data transmission network, on the basis of the address table (TAB) and the target address (ZAD), a decision is made as to which one of the virtual connections (LV1 - LV4) is used to transmit this data packet.

2. The method according to claim 1, in which the data packets (DAT) come from a local area network (LAN).

3. The method according to claim 1, in which the data packets (LAN) are structured in accordance with the internet protocol.

4. The method according to claim 1, in which the target address (ZAD) is comprised of a network address (NAD) and a host address (HAD) and only the network address (NAD) is evaluated in the network elements.

5. The method according to claim 1, in which an address table (TAB) is stored in each network element and is prepared by a central network management system (TMN-IP).

6. The method according to claim 1, in which the address table (TAB) is automatically prepared by a network element, by virtue of the fact that the target addresses (ZAD) and the source addresses of incoming and outgoing data packets (DAT) are recorded.

7. The method according to claim 6, in which a number of network elements equalize their address tables (TAB).

8. The method according to claim 7, in which the equalization of the address tables (TAB) takes place via a service channel.

9. The method according to claim 1, in which the virtual connections (LV1 - LV4) are re-established at predetermined time intervals depending on the use of a central network management system (TMN-IP, TMN-SDH).

10. The method according to claim 1, in which a new, fixed, logical connection is established at the instigation of a network element if the number of data packets to be transmitted, which have the same target address or a group of neighboring target addresses, exceeds a threshold value.

11. The method according to claim 1, in which sequences of data packets with the same source address and target address are detected and handled the same.

12. The method according to claim 1, in which the network element disposed at the transfer point to the synchronous digital data transmission network makes the decision as to which one of the virtual connections is used to transmit a data packet.

13. A network element (NE) for a synchronous digital data transmission system, characterized by means of
- an interface (IN) by way of which the network element receives data packets with a target address,
- a memory (MEM) in which an address table (TAB) is stored, which has entries regarding logical virtual connections between network elements of the synchronous digital data transmission network (SDH),
- means (IPADR) for evaluating the target address of data packets,
- means (SEL) for making a decision on the basis of the target address and the address table as to which one of the virtual connections is used to transmit a data packet.

14. The network element according to claim 13, that is a multiplexer (MUX; MUX1, MUX2) or concentrator.

15. The network element according to claim 13, that is a cross-connector (CC; CC1, CC2) and the means for evaluating the target address are provided for evaluating only the network address contained in the target address.

16. The network element according to claim 13, that is a compressor (COMP1, COMP2) and only repacks incoming subunits of synchronous transport modules into second, outgoing, smaller subunits of synchronous transport modules if the incoming subunits are not fully packed.